

WHAT IS CLAIMED IS:

1. A method for generating an image, comprising:
receiving light associated with a plurality of
spectral bands;

5 repeating the following for each spectral band
associated with the light:

receiving an electrical signal at an electro-
optical element;

10 changing an optical property of the electro-
optical element in response to the electrical signal to
filter for a spectral band; and

transmitting the spectral band to a sensor;

sensing the spectral bands at the sensor;

15 combining the spectral bands to generate a composite
signal; and

generating an image from the composite signal.

2. The method of Claim 1, wherein the electro-
optical element comprises:

20 a first layer sensitive to a first spectral band of
the spectral bands; and

a second layer sensitive to a second spectral band
of the spectral bands, the electrical signal operable to
activate the first layer and to activate the second
25 layer.

3. The method of Claim 1, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

5 a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

10 4. The method of Claim 1, wherein combining the spectral bands to generate the composite signal comprises:

accessing a function of the spectral bands; and

15 multiplexing the spectral bands in accordance with the function to combine the spectral bands.

5. The method of Claim 1, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral
20 band arrives at the sensor from the electro-optical element.

6. The method of Claim 1, wherein generating the image from the composite signal comprises:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

5 repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

10 changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

transmitting the display spectral band to a display; and

15 displaying the display spectral bands at the display to generate the image.

7. A system for generating an image, comprising:
a electro-optical element operable to:

receive light associated with a plurality of
spectral bands;

5 repeat the following for each spectral band
associated with the light:

receive an electrical signal;

change an optical property of the electro-
optical element in response to the electrical signal to
10 filter for a spectral band; and

transmit the spectral band to a sensor;

a sensor coupled to the electro-optical element and
operable to sense the spectral bands;

15 an image processing module coupled to the sensor and
operable to combine the spectral bands to generate a
composite signal; and

a display module coupled to the image processing
module and operable to generate an image from the
composite signal.

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8. The system of Claim 7, wherein the electro-
optical element comprises:

a first layer sensitive to a first spectral band of
the spectral bands; and

25 a second layer sensitive to a second spectral band
of the spectral bands, the electrical signal operable to
activate the first layer and to activate the second
layer.

9. The system of Claim 7, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

5 a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

10 10. The system of Claim 7, wherein the image processing module combines the spectral bands to generate the composite signal by:

accessing a function of the spectral bands; and

15 multiplexing the spectral bands in accordance with the function to combine the spectral bands.

11. The system of Claim 7, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral
20 band arrives at the sensor from the electro-optical element.

12. The system of Claim 7, wherein the display module is operable to generate the image from the composite signal by:

5 receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

10 changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

15 transmitting the display spectral band to a display; and

displaying the display spectral bands at the display to generate the image.

13. A logic for generating an image, the logic embodied in a medium and operable to:

receive light associated with a plurality of spectral bands;

5 repeat the following for each spectral band associated with the light:

receive an electrical signal at an electro-optical element;

10 change an optical property of the electro-optical element in response to the electrical signal to filter for a spectral band; and

transmit the spectral band to a sensor;

sense the spectral bands at the sensor;

15 combine the spectral bands to generate a composite signal; and

generate an image from the composite signal.

14. The logic of Claim 13, wherein the electro-optical element comprises:

20 a first layer sensitive to a first spectral band of the spectral bands; and

a second layer sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first layer and to activate the second
25 layer.

15. The logic of Claim 13, wherein the electro-optical element comprises:

a first section sensitive to a first spectral band of the spectral bands; and

5 a second section sensitive to a second spectral band of the spectral bands, the electrical signal operable to activate the first section and to activate the second section.

10 16. The logic of Claim 13, operable to combine the spectral bands to generate the composite signal by:

accessing a function of the spectral bands; and

multiplexing the spectral bands in accordance with the function to combine the spectral bands.

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17. The logic of Claim 13, wherein the sensor is synchronized with the electro-optical element, the sensor being operable to sense a spectral band when the spectral band arrives at the sensor from the electro-optical
20 element.

18. The logic of Claim 13, operable to generate the image from the composite signal by:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

5 repeating the following for each display spectral band associated with the composite signal:

sending a display electrical signal to a display electro-optical element;

10 changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band; and

transmitting the display spectral band to a display; and

15 displaying the display spectral bands at the display to generate the image.

19. A system for generating an image, comprising:
means for receiving light associated with a
plurality of spectral bands;

5 means for repeating the following for each spectral
band associated with the light:

receiving an electrical signal at an electro-
optical element;

10 changing an optical property of the electro-
optical element in response to the electrical signal to
filter for a spectral band; and

transmitting the spectral band to a sensor;

means for sensing the spectral bands at the sensor;

means for combining the spectral bands to generate a
composite signal; and

15 means for generating an image from the composite
signal.

20. A method for generating an image, comprising:
receiving light associated with a plurality of
spectral bands;

5 repeating the following for each spectral band
associated with the light:

receiving an electrical signal at an electro-
optical element, the electro-optical element comprising a
first layer sensitive to a first spectral band of the
spectral bands, and comprising a second layer sensitive
10 to a second spectral band of the spectral bands, the
electrical signal operable to activate the first layer
and to activate the second layer, the electro-optical
element further comprising a first section sensitive to a
first spectral band of the spectral bands, and comprising
15 a second section sensitive to a second spectral band of
the spectral bands, the electrical signal operable to
activate the first section and to activate the second
section;

changing an optical property of the electro-
20 optical element in response to the electrical signal to
filter for a spectral band; and

transmitting the spectral band to a sensor;

sensing the spectral bands at the sensor, the sensor
synchronized with the electro-optical element, the sensor
25 being operable to sense a spectral band when the spectral
band arrives at the sensor from the electro-optical
element;

combining the spectral bands to generate a composite
signal by accessing a function of the spectral bands, and
30 by multiplexing the spectral bands in accordance with the
function to combine the spectral bands; and

generating an image from the composite signal by:

receiving the composite signal, the composite signal associated with a plurality of display spectral bands;

5 repeating the following for each display spectral band associated with the composite signal: sending a display electrical signal to a display electro-optical element, changing an optical property of the display electro-optical element in response to the display electrical signal to filter for a display spectral band, and transmitting the display spectral band
10 to a display; and

displaying the display spectral bands at the display to generate the image.